

REMARKS

Claims 1-20 are pending in the present application. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 103(a), Alleged Obviousness, Claims 1-20

The Office Action rejects claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Watkins (U.S. Patent No.5,486,111). This rejection is respectfully traversed.

As to claims 1 and 4, the Office Action states:

As to claims 1 and 4, Watkins teaches a method for gauging the translation accuracy of a translator, comprising the steps of:

Providing a teaching aid which presents the source to target and target to source translations in a sequential manner such that both accurate translation from a first language to a second language and the translation from the second language back to a first language are compared to identify the level of accuracy of the translation (abstract; Col. 2, lines 15-24; Figs 1-4). It is noted that, Watkins doesn't explicitly teach having iteration threshold, however one of ordinary skill in the art will appreciate the advantage of having iteration threshold for the simple reason of setting a condition where the back and forth translation is limited.

Office Action dated September 16, 2004, page 2.

The Office bears the burden of establishing a *prima facie* case of obviousness based on the prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). For an invention to be *prima facie* obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Independent claim 1, which is representative of claims 10 and 19 with regard to similarly recited subject matter, recites:

1. A method for measuring quality of machine translation, comprising:
receiving an original source language text;
repeatedly translating and retranslating the original source language text between the source language and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached; and

identifying the translation as low quality if the current source language text is not reasonably equivalent to the original source language text.
(emphasis added)

Watkins does not teach or suggest the features emphasized above. As discussed in the Abstract, Watkins teaches a language translation teaching aid and method that comprises a first presentation of a line of words, a phrase, or a sentence in a first language according to its normal rules of syntax and grammar; a second presentation in a second language of a word-for-word translation of the words, a phrase, or a sentence presented in the first language; a third presentation in the second language of an accurate translation of the first presentation according to the normal rules of syntax and grammar of the second language; and a fourth presentation in the first language of a word-for-word translation of the third presentation in the second language.

However, Watkins does not teach or suggest repeatedly translating and retranslating original source language text between a source language and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached. The Office Action alleges that Watkins teaches these features at column 2, lines 15-24, which reads as follows:

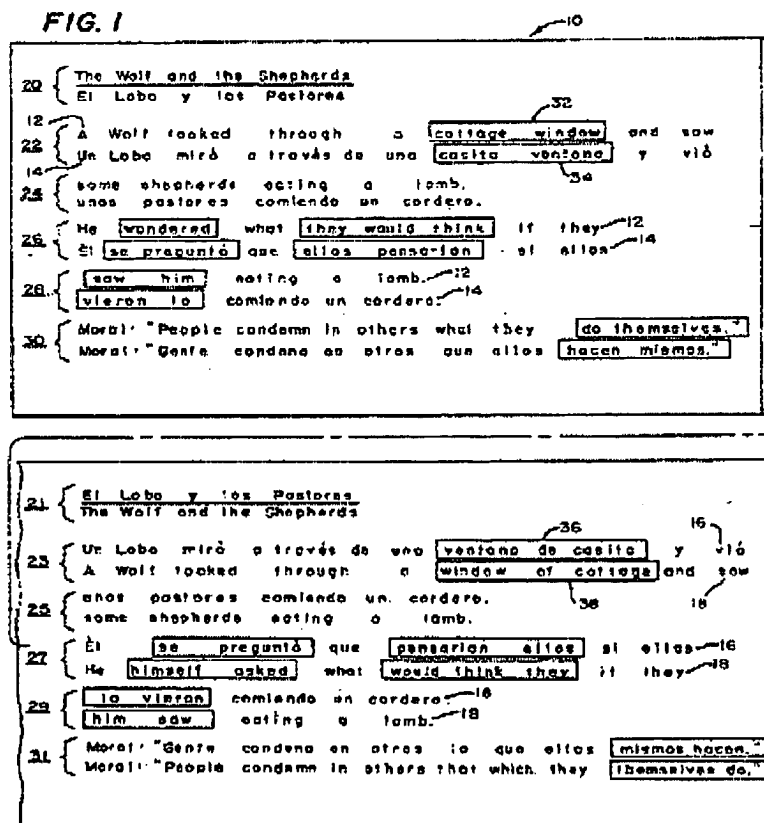
It is a further object of the invention to provide a teaching aid which displays, or otherwise presents, the source to target and target to source translations in a sequential manner, such as through successive audio recitations, video screens, CRT displays or pages, so that both word for word translations and accurate translations from a first language into a second language and translations from the second language into the first language are available to the user within a short time period for easy comparison and understanding of the applied translation rules. (emphasis added)

In the above section, Watkins merely teaches that translations are made between a first and a second language for the user to easily compare translations and understand the applied translation rules. Watkins does not teach translating and retranslating until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached. Watkins does not teach or suggest until when or to what condition translations will terminate, because Watkins is not interested

in identifying the accuracy of the translations between the source and the target language, as alleged by the Office Action.

To the contrary, as described at column 4, lines 17-30, Watkins is interested in presenting an entire paragraph or story in which the title, phrases, or sentences are set forth sequentially in groups with each group including first, second, third and fourth presentations consistent with each of the other groups for the case of understanding of the translations being made, whether they are word-for-word translations or proper grammar and syntax translations, so that understanding is facilitated and teaching is thereby aided. Therefore, Watkins has no need to specify until when or to what condition translations will terminate, because Watkins merely focuses on a teaching aid that presents four presentations for users to understand the translations and rules associated with the translations, as opposed to identifying the accuracy of the translations as alleged by the Office Action.

Figure 1 of Watkins, which describes the four presentations, is shown below:



As shown in **Figure 1**, Watkins teaches a first presentation 12 with a group of words that is presented in a first language and a second presentation 14 with a word-for-word translation presented in a second language. The second presentation 14 follows closely with the presentation of the first language and is aligned word-for-word for increased understanding of the translation of each word being presented. Also shown in **Figure 1**, Watkins teaches a third presentation 16 of an accurate and grammatically correct translation of the first presentation 12 and is arranged correspondingly with the first presentation for ease of understanding of the translation being made. A fourth presentation 18 of a word-for-word translation of the third translation from the second language to the first language is made. This fourth presentation is also aligned with the third presentation in the same fashion as the first and second presentations. (Column 3, line 40 to column 4, line 15)

Thus, Watkins teaches a teaching aid that presents translations between a first language and second language sequentially using four presentations for the ease of user understanding of the translations that are being made. There is no condition specified as to when the translations will terminate. This is contrary to the presently claimed invention, which repeatedly translates and retranslates between a source and a target language until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached, such that the quality of the translation may be determined for each iteration of the translations. Therefore, Watkins does not teach or suggest repeatedly translating and retranslation until a current source language text is not reasonably equivalent to the original source language text or until an iteration threshold is reached, as recited in claims 1, 10, and 19 of the present invention.

In addition, Watkins does not teach or suggest an iteration threshold, as recited in claims 1, 10, and 19 of the present invention. The Office Action admits that Watkins does not explicitly teach an iteration threshold, but the Office Action alleges that one of ordinary skill in the art will appreciate the advantage of having iteration threshold for the simple reason of setting a condition where the back and forth translation is limited. Applicants respectfully disagree.

There is no teaching or suggestion of an iteration threshold in Watkins. At column 4, line 47 to column 5, line 8, Watkins teaches that the presentation of the

teaching aid may be made in multiple volumes. The phrases and sentences on each of the corresponding pages in the volumes also correspond in arrangement, order, numbering and/or lettering, so that it performs a function of teaching aid giving the user easy access to both the word-for-word translation and the grammatically and syntactically correct translation as desired.

However, nowhere in the above section, or any other section, of the reference does Watkins teach or suggest an iteration threshold. Watkins is not interested in keeping track of the number of translations performed in order for the user to understand the translations and the translation rules. Watkins merely arranges the presentation of the translations in a number of volumes that best aids the user in learning the rules and art of translations between various languages. Watkins does not even have the need for an iteration count, because Watkins is not interested in determining the number of translations to be performed by the teaching aid. Watkins is only interested in presenting the translations in a manner that best aids the user in learning the translation and associated translation rules. Therefore, a person of ordinary skill in the art would not have been motivated to modify Watkins' teaching to arrive at an iteration threshold, because there is simply no teaching or suggestion in Watkins to keep track of the number of translations or to set a condition to limit the number of translations, as alleged by the Office Action.

Furthermore, Watkins does not teach or suggest identifying the translation as low quality if the current source language text is not reasonably equivalent to the original source language text, as recited in claims 1, 10, and 19 of the present invention. Nowhere in the reference does Watkins identify the quality of the translation between the source language and the target language. As discussed in the Abstract, Watkins teaches a second presentation in a second language that is a "word-for-word translation" of the words, phrases or a sentence presented in the first language, and a third presentation in the second language of an "accurate translation" of the first presentation according to the normal rules of syntax and grammar of the second language. At column 3, lines 5-15, Watkins teaches that an "accurate translation" or a "correct translation" is one that conveys a meaningful translation using appropriate syntax and grammar for each language used. The degree of accuracy and correctness may vary depending upon the

skills of the teacher or manufacturer of the teaching aid. Watkins further teaches that the concept of "accurate translation" is distinguishable from the word-for-word translation which does not focus on the contextual meaning of the proper application of rules of syntax and grammar.

Thus, Watkins merely translates either "word-for-word" from a first language to a second language or "accurately translates" from a first language to a second language based on the proper rules of syntax and grammar. Watkins does not identify the translation as low quality between a source language and target language if the current source language text is not reasonably equivalent to the original source language text. In fact, Watkins is not interested in how reasonably equivalent the translation is between the first and the second language. Rather, Watkins is only interested in translating "word-for-word" or according to the rules of syntax and grammar, so that the user may understand the translation and the rules of syntax and grammar. Therefore, Watkins also does not teach or suggest identifying the translation as low quality if the current source language text is not reasonably equivalent to the original source language text, as recited in claims 1, 10, and 19 of the present invention.

In view of the above, Applicants respectfully submit that Watkins does not teach or suggest the features of claims 1, 10, and 19. At least by virtue of their dependency on claims 1 and 10 respectively, Watkins does not teach or suggest the features of dependent claims 2-3, and 11-12. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 1-3, 10-12, and 19 under 35 U.S.C. § 103(a).

Independent claim 4, which is representative of claims 13 and 20 with regard to similarly recited subject matter, recites:

4. A method for measuring quality of machine translation, comprising:
 - a) receiving an original source language text $SHLx_0$;
 - b) setting a counter i to zero;
 - c) performing machine translation on source language text $SHLx_i$ to form target language text $THLy_i$;
 - d) performing machine translation on target language text $THLy_i$ to form source language text $SHLx_{i+1}$;
 - e) increment i by one; and
 - f) repeat steps (c) through (e) until $SHLx_i$ is not reasonably equivalent to $SHLx_0$ or until i reaches an iteration threshold. (emphasis added)

Watkins does not teach the features emphasized above. Nowhere in the reference does Watkins teach or suggest setting a counter i to zero, or incrementing i by one after c) performing machine translations on source language text to form target language text and d) performing machine translation on target language text to form source language text. As discussed in arguments presented for claims 1, 10, and 19, Watkins is not interested in keeping track of the number of translations. Watkins is only interested in displaying translations in four presentations in order for the user to understand the translations being made and the translation rules. Therefore, Watkins does not teach or suggest setting a counter i to zero or incrementing the counter by one after performing translations.

In addition, Watkins does not teach repeating the performing steps c) and d) and the incrementing step e) until $SHLx_i$ is not reasonably equivalent to $SHLx_0$ or until i reaches an iteration threshold. As discussed in arguments presented for claims 1, 10, and 19, Watkins does not teach an iteration threshold, since Watkins is not interested in limiting the number of translations. In addition, Watkins is not interested in how reasonably equivalent the translation is between the first and the second language. Rather, Watkins is only interested in translating "word-for-word" or according to the rules of syntax and grammar. Therefore, Watkins fails to teach or suggest repeating the performing steps c) and d) and the incrementing step e) until $SHLx_i$ is not reasonably equivalent to $SHLx_0$ or until i reaches an iteration threshold, as recited in claims 4, 13, and 20 of the present invention.

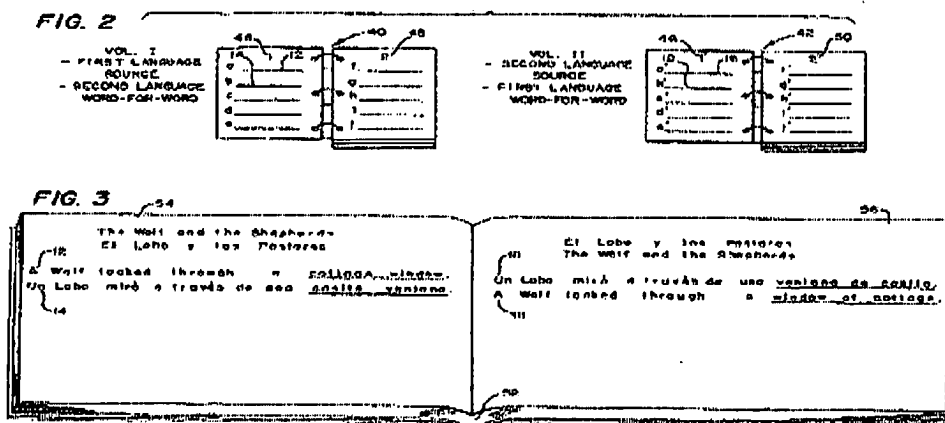
Furthermore, a person of ordinary skill in the art would not have been motivated to modify Watkins' teaching to arrive at the presently claimed invention, because there is simply no teaching or suggestion of a counter, let alone setting a counter to zero and incrementing the counter by one after performing the translations c) and d), as recited in claims 4, 13, and 20 of the present invention.

Accordingly, Applicants respectfully submit that Watkins does not teach or suggest the features of claims 4, 13, and 20. At least by virtue of their dependency on claims 4 and 13 respectively, Watkins does not teach or suggest the features of dependent claims 5-9 and 14-18. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 4-9, 13-18, and 20 under 35 U.S.C. § 103(a).

In addition, Watkins does not teach or suggest the specific features as recited in dependent claims 2-3, 5-9, 11-12, and 14-18. For example, with regard to claims 5-9, which are representative of claims 14-18 with regard to similarly recited subject matter, Watkins does not teach or suggest identifying the target language text as low quality if a source language text SHL_x is not reasonably equivalent to the original source language text (claim 5), wherein SHL_x is reasonably equivalent to SHL₀ if SHL_x is similar in size within a given threshold to SHL₀ (claim 6), if SHL_x contains the same number of words as SHL₀ within a given threshold (claim 7), if SHL_x contains the same set of keywords as SHL₀ within a given threshold (claim 8), and if SHL_x generates the same Translation Confidence Indices as SHL₀ within a given threshold (claim 9).

As discussed above in arguments presented for claims 1, 10, and 19, Watkins does not teach or suggest identifying the target language text as low quality if a source language text SHL_x is not reasonably equivalent to the original source language text, because Watkins is not interested in how reasonably equivalent the translation is between the first and the second language. Rather, Watkins is only interested in translating "word-for-word" or according to the rules of syntax and grammar. Therefore, Watkins does not teach the features of claims 5 and 14 of the present invention.

In addition, the Office Action alleges that Watkins teaches the features of claims 6-9 and 15-18 in Figures 1 to 3, where the original source language is compared with the translated source language and where different outcomes are obtained. Figures 2 and 3 of Watkins are shown below:



As shown in Figure 2, Watkins teaches presenting the teaching aid in two presentation volumes 40 and 42. In the first volume 40, the first language is the source language and a word-for-word translation is provided in a second language. In the second volume 42, the second language is the source language and a word-for-word translation is provided in the first language. As shown in Figure 3, Watkins teaches a single volume or book that is arranged such that there are presentations of source languages, such as 12 or 16, and word-for-word translations, such as 14 or 18. Watkins teaches that with this arrangement, the user can view all the presentations by simple eye movement. In addition, Watkins teaches that this arrangement facilitates and aids the user in learning the rules and art of translations between various languages.

However, nowhere in Figures 2 and 3 above, or any other figures, in the reference does Watkins teach or suggest if the source language text SHL_{x1} is similar in size, contains the same number of words, contains the same set of keywords, and generates the same Translation Confidence Indices, as the original source language text SHL_{x0} within a given threshold, as recited in claims 6-9 and 15-18 of the present invention. In fact, Watkins does not even compare the original source language text SHL_{x0} and the source language text SHL_{x1} based on any criteria.

In Figures 2 and 3, Watkins merely teaches displaying the translations between the first and second language in two volumes or a single volume for the user to view all the presentations, such that the user may easily learn the rules and the art of translations. Watkins does not teach or suggest comparing the first language text to the second language text based on any criteria. Since Watkins fails to teach or suggest comparing the original source language text to the source language text based on any criteria, Watkins does not and would not teach if the source language text SHL_{x1} is similar in size, contains the same number of words, contains the same set of keywords, and generates the same Translation Confidence Indices, as the original source language text SHL_{x0} within a given threshold, as recited in claims 6-9 and 15-18 of the present invention.

Thus, in addition to their dependency on claims 1, 4, 10, and 13, respectively, Applicants respectfully submit that Watkins does not teach or suggest the specific features of claims 2-3, 5-9, 11-12, and 14-18. Accordingly, Applicants respectfully

request the withdrawal of rejections to claims 2-3, 5-9, 11-12, and 14-18 under 35 U.S.C. § 103(a).

II. Conclusion

It is respectfully urged that the subject application is patentable over Watkins (U.S. Patent No. 5,486,111) and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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